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"PRE-SCHOOL" EDUCATION, PROS AND CONS. A SURVEY OF "PRE-SCHOOL" EDUCATION WITH EMPHASIS ON RESEARCH PAST, PRESENT, AND FUTURE.

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THIS REPORT WAS A SURVEY OF THE PROS AND CONS CONCERNING PRESCHOOL EDUCATION. THE INTRODUCTION WAS A DISCUSSION OF SOME OF THE HISTORY BEHIND THE PRESCHOOL PROGRAMS OF TODAY. IN THE NEXT PART OF THE REPORT IT WAS SUGGESTED THAT THE MOST IMPORTANT YEARS OF LEARNING ARE BETWEEN THE AGES OF 4 AND 6. JUNIOR KINDERGARTENS COULD THEREFORE HAVE GREAT IMPLICATIONS FOR THE CHILD'S FUTURE LEARNING PATTERN. YET, SOME EDUCATORS FEEL THAT PRESCHOOL IS NOT NECESSARY FOR THE MIDDLE-CLASS CHILD AND THAT KINDERGARTEN IS ADEQUATE. STILL OTHER EDUCATORS FEEL THAT IT IS THEIR RESPONSIBILITY TO PROVIDE STIMULATION AND GUIDANCE TO ALL PRESCHOOL-AGE CHILDREN. THERE HAVE BEEN CONFLICTING RESULTS IN STUDIES MADE. THESE COULD BE DUE TO THE VARIOUS TYPES OF CHILDREN, TEACHER-CHILD INTERACTION AND THE NATURE OF THE PROGRAM. DUE TO THE LACK OF CONCLUSIVE RESULTS, FURTHER RESEARCH TO DETERMINE THE VALUE OF HAVING A JUNIOR KINDERGARTEN WAS JUDGED TO BE NECESSARY. (CO)

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"PRE-SCHOOL" EDUCATION
PROS AND CONS

A SURVEY OF "PRE-SCHOOL" EDUCATION WITH EMPHASIS ON RESEARCH PAST, PRESENT, AND FUTURE

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TABLE OF CONTENTS

		Page
I -	INTRODUCTION.....	1
II -	THE NEED FOR JUNIOR KINDERGARTEN.....	5
III -	RESEARCH: WHY IT WAS NEEDED AND WHAT HAS BEEN DISCOVERED.....	8
	Why?.....	8
	What?.....	8
	a)I.Q.....	8
	b)Social Development.....	11
	c)Behavior and Personality.....	13
	d)Achievement.....	14
IV -	DISCUSSION: THE LIMITATIONS OF THE RESEARCH TO DATE AND THE FUTURE OF PRE-SCHOOL EDUCATION.....	16
V -	REFERENCES.....	19
VI -	ADDITIONAL REFERENCES.....	23

"PRE-SCHOOL" EDUCATION - PROS AND CONS:
A Survey of "Pre-School" Education with Emphasis on Research Past, Present, and Future

I - INTRODUCTION

"However numerous may be the systems of education adopted in different countries, and in distant ages of the world, the object proposed to be attained has everywhere been ostensibly the same, viz., by care and training, to render the body and mind of man apt instruments for fulfilling the design of his existence, the acquisition of happiness, social and domestic."

...John Locke

"All who have mediated on the art of governing mankind have been convinced that the fate of empires depends on the education of youth."

...Aristotle

"The foundation of every state is the education of its youth."

...Diogenes

The problems of education have occupied the minds of learned and not-so-learned men for generations. In one area, that of educating very young children, research and development programmes have been undertaken in earnest in the twentieth century. This is not intended to imply that the problem has not been considered before. In the 4th Century B.C. Plato advised state care and education for children from birth to adulthood. For three to six-year olds he recommended games as a healthful pastime for young minds and bodies. His influence is still evident in the "pre-school" programme today.

In the early part of the present century Bertrand Russell (1926), expressed the following:

> "The nursery-school if it became universal, could in one generation remove the profound differences in education which at present divide the classes, could produce a population all enjoying the mental and physical development which is now confined to the most fortunate, and could remove the terrible dead-weight of disease and stupidity and malevolence which now makes progress so difficult" p. 229.

He went on to complain that,

> "Under the Education Act of 1918, nursery-schools were to have been promoted by government money; but when the Geddes Axe descended it was decided that it was more important to build cruisers and the Singapore Dock for the purpose of fascilitating war with the Japanese" p. 230.

The time from Plato to Russell was bridged by thoughtful consideration, but little was done about developing institutions from ideas. The final result of this aging process seems to have been the rather sudden establishment of "pre-school centres" all over the world.

In the 19th Century three pre-school kindergartens "existed" in Australia for the benefit of middle class children. (Australian Council for Educational Research, 1964.) In 1895 other centres were developed with the objective of enlightening the "poor" children. The church, the state, and private citizens financed the operation. The movement grew, and in 1938, the Australian Pre-School Association was formed. Today, numerous institutions exist to serve youngsters from three to five years of age. The hours and the services vary, but the programmes are generally based on the principles of child development and the recognition of individual differences.

In England, nursery education has existed for some time (Russell, 1926; Brubaker, 1964). The problems associated with it were mainly financial, in that private citizen's groups felt the need of stronger government support. In 1944, the nursery school became part of the educational system costing £6,000,000 annually (Brubaker, 1960). Since that time, it has grown steadily. Elsewhere in the Commonwealth, New Zealand passed a bill in 1943 to establish kindergartens for children aged three and four (Brubaker, 1960). In Nigeria presently, Dr. B. Babin is investigating the social development of children with early childhood education as opposed to those who lack this background. To date, two pre-school centres exist for lower class boys (personal communication, 1965).

In Norway, nursery schools exist for children aged three to seven and are financed both publicly and privately. The programme consists mainly of educational games rather than any formal learning. This is based on the policy that nursery school is to be regarded as a social rather than an educational matter (Hove, 1955).

The USSR seems to have the most fully developed programme which is largely made possible by the political attitude of the nation. Children are looked after from the age of two and one half months in a well-staffed community centre. Until the age of three years the emphasis is heavily on good medical care and proper physical growth. Then the children are taught some self-control in that they must learn to sit quietly at desks for up to twenty-five minutes. At age three they enter kindergarten and remain there for the next four years. It is here that collective activities are stressed. Art and music are important, as are arithmetic and vocabulary development. Some experi-

mental work has been done with foreign language teaching. Soviet educators claim that children who attend nursery and kindergarten do better in primary grades than children who do not have this early education (American Association of School Administrators, 1965).

The Communist Chinese system, unlike the Russian, has not developed much beyond child care units. The problem seems to be a lack of trained teachers and general organization. The latter situation has improved recently to the extent that most mothers are assured a place to leave their children while they go to work (Orleans, 1961).

Pre-school education in Canada and the United States has existed primarily as a private enterprise and as such was characterized by programmes varying greatly in quality. Despite the fact that 67% of school administrators polled in 1954 rejected the idea of pre-kindergarten classes maintained by the local public school system (Nation's Schools, 1954), pre-school education has mushroomed in the United States. Canada has shown concern but generally has lagged behind. Ontario has made the greatest contribution to pre-school education. In Toronto, the Board of Education has operated Junior Kindergartens since the early 1940's. Much of the development of the pre-school movement in Canada and the United States in recent years has been due to the growing concern among educators and politicians alike, for the education of the "culturally deprived" child.

It should be obvious by now that there is a slight problem with nomenclature. Since verbal labels influence perception it might be worthwhile to mention here that the following are considered equivalent except where otherwise indicated:

> "Nursery Schools, Nursery Kindergartens, Pre-school, Pre-school Centres, Pre-school Kindergartens, Junior Kindergarten, and Pre-primary."

II - THE NEED FOR JUNIOR KINDERGARTEN

> "The dearest hope of the parent for his child is that he become all that he is capable of being. This is precisely the goal of school and college and exactly what city, state and nation strive for."
>
> ...Dr. Morris Meister

Bloom (1964) has suggested that 17% of educational growth takes place between four and six years of age and therefore, nursery school and kindergarten could have far reaching consequences on the child's general learning pattern. The importance of this period was stressed by Burks in 1939.

> "The pre-school ages constitute the period 'par excellence' not only for developing constructive attitudes toward tasks but for integrating these with a sense of personal value and with feelings of security in social relationships" p.548.

It would seem that when children are secure within themselves, they learn faster in school. During this pre-school period the child is highly motivated by his desire to learn to become himself, and to express himself as a worthwhile free agent, his interest in other children, his urges for physical activity, and his readiness to accept directions. Here lies the importance of pre-school (Chamberlain, 1956).

Despite these positive statements, there are those who feel that pre-school need not be universal in their systems. Dr. Sydney Marland, Superintendant of Schools, Pittsburgh, feels that:

> "It's (pre-school) necessary if we're to interrupt the poverty cycle for very deeply deprived children and get them started. I do not necessarily think at this time of the pre-primary as universal for all children. I think the kindergarten approach for typical middle class children is *adequate. What we're trying to do is reach the bottom 10 or 15 per cent--those who cannot compete with the typical kindergarten child at age five--and give them a running start into the atmosphere of a middle class kindergarten (Rice et al., 1965, p. 46).

These sentiments expressed in the Fall of 1965 are the rallying cry of educators and politicians alike. The possible value of pre-school as a bridge between two cultures is enormous providing the programme is carefully planned with this goal in mind.

> "....the middle class family seems to do this (prepares the child for his first school experience) quite *adequately for the middle class child. But for the lower class child some social intervention is strongly indicated. This points squarely at pre-school programming for these children" (Deutsch, 1963, p. 192).

Education in this area has come a long way since 1954 when it was estimated that only 7% of local school systems provided pre-kindergarten and 67% of a random poll of school administrators rejected the idea (Nation's Schools, 1954). The acceptance and growth of this movement has in all probability been due to the desire of those involved with education to give an equal chance to all children. The early results of studies conducted with "deprived" children seem to justify the enthusiasm of their promotors. However, if we accept the following quote as valid:

---

*emphasis added

> "Our present knowledge of the development of learning abilities indicates that the pre-school years are the most important years of learning in the child's life. A tremendous amount of learning takes place during these years; and this learning is the foundation for all further learning" (Jenson, 1963, p. 133).

is it not the responsibility of educators to provide stimulation and guidance to all pre-school age children, including the middle class child, with programmes aimed at developing mental growth and adaptive behavior which is more than just "adequate"?

III - RESEARCH: WHY IT WAS NEEDED AND WHAT HAS BEEN DISCOVERED

"Imperfect knowledge is the parent of doubt;
thorough and honest research dispels it."

...Tyron Edwards

Why?

Progressive educators and philosophers have spoken and written about the benefits to be derived from junior kindergarten for many years. The accumulated weight of these theoretical endorsements has led modern school administrators to adopt this view point as well, despite the lack of empirical evidence. Relatively recent discoveries in learning and developmental psychology are highly in favour of early education but to quote Kant:

".....theory without experiment is lame."

The way is open for more comprehensive research in this area, a plea registered by Allen and Masling in 1957.

Research to date has covered many facets of mental and behavioral changes supposedly due to pre-school experience. Unfortunately most of the experiments have flaws which could seriously affect the results. The following is a survey of experiments and their findings presented according to subject matter.

What?....The Effect of Junior Kindergarten:

a) I.Q.: Two early studies (Wooley, 1925; Barrett and Koch, 1930) reported an apparent effect of pre-school upon mental development. These results were contradicted by two other studies (Hildreth, 1938; Goodenough, 1928) and this statement diverted most researchers from what

appeared to be a rather unrewarding area of study. Those who were persistent in their efforts developed extensive programmes of research.

Wellman (1934) cited her 1932 study in which she reported substantial gains in intelligence by children who had attended pre-school laboratories of the Iowa Child Welfare Research Station and the elementary and junior high schools maintained by the College of Education of the State University of Iowa. During the pre-school ages the gains on individual Binet tests were directly associated with periods of pre-school attendance. In a second study in 1934, the author reported that children who remained in the University's school system were higher In I.Q. at the age of eight and one half years than those who had transferred, although at the age of four they had been alike. Non-pre-school children did not show any appreciable change. Wellman and McCandless (1946) investigated factors which might be associated with Binet I.Q. changes and found no relationship between I.Q. change and frequency of teacher-child contacts or child-child contacts. As well, there was no relationship between change in vocabulary and change in I.Q.

Starkweather and Roberts (1940) gave Merrill-Palmer tests and Stanford-Binet tests to 107 and 103 children respectively upon entrance to the Merrill-Palmer nursery school. These children were re-examined on the same tests 6 to 40 months later. Using methods of analysis comparable to Wellman's the authors discovered a relationship between nursery school attendance and I.Q. changes. Varying the lengths of nursery school attendance, however, showed no relationship to I.Q. changes.

Frandsen and Barlow (1940) tested a nursery and non-nursery group equated with respect to sex, age, socio-economic status and extent

of home training. On the Stanford-Binet Intelligence Test, the experimental group gained 3.34 I.Q. points, as compared with a gain of 0.53 points for the control group. To quote the authors,

> "The gain for the experimental group, although it approximates statistical significance, appears very small when compared with the whole range of individual differences in I.Q. resulting from both hereditary and environmental causes." p.147

These findings concur with many of the others reported in the 39th Yearbook of the National Society for the Study of Education. The limitations of various studies will be discussed later in the hope that they might provide an explanation of some of the discrepancies among the studies.

Among the negative findings are those of Goodenough and Maurer (1940) who found that,

> "None of the analyses that we have been able to make warrant the conclusion that attendance at the University of Minnesota Nursery School has any measurable effect whatever upon the mental development of children. Those who have had this training do no better on standardized intelligence tests than those who have not had it; they are neither more nor less advanced in school, and those who have attended longest and most regularly do not excel those whose period of enrollment was short and broken by frequent absences." p.176

Voas (1940) found no evidence that nursery experience had any determining effect upon intellectual level. A similar finding was reported by Olson and Hughes (1940).

> "An uncontrolled comparison of the subsequent growth of children with and without nursery school experience demonstrates a superiority in mental and organismic age for those with the experience. By confining the comparisons to children of parents in the professional group the differences disappear." p.244

Comparing children of like grade and sex, Lamson (1940) discovered that nursery school experience neither increases nor decreases intelligence quotients.

A more recent study by Deutsch in 1963 found higher group intelligence test scores among children who had pre-school kindergarten experience, as compared with those whose initial contact with school was in first grade. The children in this study were from low socio-economic status families and were part of the group being studied at the Institute for Developmental Studies, New York Medical College.

Moustakas (1952) summarized the general findings on the intelligence of nursery school children as follows:

> "Whether or not nursery school attendance significantly modified intelligence test results is still an unsettled question." p.171

b) Social Development. The three and four year old child is developing an increasing social awareness. His boisterous play usually involves other children and nursery school provides ample opportunity for him to establish satisfactory relationships with his peers. Whether or not nursery school enables the child to acquire social skills above and beyond those established in the absence of this experience was investigated experimentally by Allen and Masling (1957). Children with and without pre-school were given a "near-sociometric" test. Only in the second grade did the results show that the differences between nursery and non-nursery children reached statistical significance, although there was a consistent trend in earlier grades favouring the nursery children. What qualities does the pre-school child have which make him a prestigeful person? The authors suggest that the non-nursery child sees the child with nursery school experience as a peer who is

somewhat independent of adults, who is perhaps more sure of himself and who seems more free and spontaneous than the other members of the class.

A report by Bonney and Nicholson (1958), cited three studies comparing children with and without pre-school experience on their social status and acceptability in later years.

The first of these studies by Angell showed that pupils who had attended nursery school had a reliable advantage over non-nursery school pupils in receiving positive choices from their classmates. But they showed a reliable advantage in only one out of five traits from the standpoint of teacher ratings on the Winnetka Scale. The second (Nicholson) and third studies found no evidence that pupils who had attended some kind of pre-school had any advantage in social behavior over those without this experience.

The conflicting results could reflect any of a number of vital factors. Angell's experiment dealt with children who attended a college-operated pre-school. As well, the quality of teacher-child, interaction could affect the child's social development. The nature of the programme is also vital to the pupil. To simply assume that any pre-school experience is beneficial seems at present to be false. On this issue, Bonney and Nicholson (1958) concluded that:

> "It seems likely that many educators and child psychologists have had too much naive faith in the adjustment or curative values of group socialization, without sufficient attention being paid to whether or not the activities engaged in are actually helping those who need some assistance as opposed to simply perpetuating an established social hierarchy." p. 132

c) Behavior and Personality. Hattwick (1936) surveyed the literature in this area and found very little. Most studies suggested increased sociability, self-expression and self-reliance as a result of nursery school attendance, but the studies were on a small scale and the authors seldom attempted to determine statistical significance. Hattwick compared two groups of children, each with a different amount of nursery experience. They were matched on chronological age, sex, nationality and race, and economic level. She found that children were more sociable after a longer attendance at nursery school. Fear of strangers was reduced for the three-year-old but not for the four-year-old. It could be that this behavior has been minimized to the extent were change is no longer evident. Three-year-olds with longer nursery experience seemed to show more dependence on adults. There were differences for the four-year-old groups on this aspect of behavior. Children who had attended for a longer period of time showed fewer inhibitions. Nursery school seemed to produce different effects according to age. Four-year-olds with extensive pre-school experience showed more efficient behavior, while three-year-olds wasted time and left tasks incomplete. Hattwick (1936) summarized her experiment as follows:

> "This study in general, substantiates other investigations in revealing:
>
> 1. An improvement in social adjustments following nursery school attendance.
>
> 2. A decrease in behavior indicative of inhibitions following nursery school attendance.
>
> 3. An improvement in routine habits after nursery school experience." pp.188-189

Lamson (1940) obtained personality ratings from teachers of nursery and non-nursery children. The difference between the two

groups was statistically significant and in favour of the non-nursery group. Messenger (1940) sees the nursery school as important in developing social adaptability, initiative, independence, self-assertiveness and self-reliance.

In 1952, Moustakas surveyed and evaluated personality investigations conducted in nursery schools. He noted that with increasing nursery school attendance children made higher scores on emotional maturity, exhibited more persistent, aggressive behavior and more hostility, were less sensitive to suggestion and criticism, and offered more resistence to authority.

Once again experimentation has not shown absolutely clear-cut advantages arising from pre-school experience. However, here it seems that most investigators do see some changes in nursery children which do not appear in non-nursery children. Part of the answer to the conflicting results might lie in the difficulties inherent in assessing behavior at this stage.

d) Achievement. Studies of achievement are not as numerous as studies in some of the other areas, e.g., I.Q. Evaluating the level of achievement in young children is a difficult task. Few of the activities of pre-school children lend themselves readily to quantitative analysis. When one adds to this the problem of rapid change and the unreliability of young children's answers, good research becomes even more difficult.

Lamson (1940) administered the Haggerty Reading Examination to nursery and non-nursery children in grades one and two. He found no significant difference between the two groups in reading achievement.

Fast (1957) found that kindergarten allowed children to make

higher scores on reading readiness tests. Gill (1964) carried this a year further back and found that children with junior kindergarten experience scored statistically higher than those without this experience.

Peterson (1940) gave vocabulary, reading aptitude, and general information tests to nursery and non-nursery children. In all cases the results favoured the non-nursery group. These comparisons were made while the children were attending kindergarten. McFarland (1957) studied orphanage children during the nursery year and found no difference in vocabulary between those with and those without nursery experience. Skeels et al. (1938) found nursery children to have superior vocabularies to the controls at each half-year age level from two and one-half to six and one-half years. At six and one-half years the control children were superior.

Since 1960, the Board of Education for the City of Toronto has collected information pertaining to the achievement of junior and senior kindergarten pupils. The instruments employed have included teachers' ratings, I.Q. tests, and the Metropolitan Achievement test. The children taking part in the study are now in Grade 4. Preliminary results seem to indicate that the most striking differences occur when the junior kindergarten children are compared with those children who could have gone to junior kindergarten but did not. This seems to imply the importance of a familial factor in the second group. Of the tests used, the rating questionnaire shows the most significant differences. Future results should indicate the importance of variables such as language, parent's educational level and father's occupation.

IV - DISCUSSION: THE LIMITATIONS OF THE RESEARCH TO DATE AND THE FUTURE OF PRE-SCHOOL EDUCATION

> "No research is ever quite complete. It is the glory of a good bit of work that it opens the way for something still better, and this repeatedly leads to its own eclipse."
>
> ...Mervin Gordon

It is rather obvious that the benefits supposedly forthcoming from junior kindergarten have not shown up conclusively in the research to date. The reasons for this vary from study to study. Since most of the research mentioned is subject to some criticism it would seem more meaningful to discuss the general problems in this area rather than those specific to each study.

The most obvious explanation of the lack of significant results is that in truth, junior kindergarten experience does not produce any changes. In the light of developmental findings and teachers' experiences this seems unlikely. The next alternative is that experimenters are measuring the wrong factors or, the instruments being used are not adequate. The problems involved in using I.Q. and sociometric tests with young children are extensive. Since practice-effects occur with I.Q. tests it is important that both the experimental and control groups are tested an equal number of times. As well, ratings have in the past been somewhat unreliable.

The most serious fault in many of these experiments was the lack of a well-matched control group. If the children for this group are chosen randomly, the results could be due to socio-economic status, language, or sex rather than lack of pre-school experience. The Board

of Education study, now in progress, has used the most rigid matching procedures to date. Children are matched with respect to sex, age, language, father's education, mother's education, and father's occupation. In this way, it was hoped that experience would be without a doubt the determining factor in any differences between the two groups. Despite this careful control it would appear that a familial factor is operative as well. For unknown reasons parents kept their children home from junior kindergarten. The percentage of non-English lower class parents doing this was higher than that of English middle-class parents. It is therefore incorrect to assume as Brubaker (1960) did that:

> "Since the program was optional and there was no additional personal cost involved as there is in nursery school, it cannot be assumed that the basis for attendance in the first year was due to differences in economic background or cultural advantages which would, of course, create differences in the two groups had those factors existed."

The other, slightly different explanation of the inconsistent results is that the pre-school programme is generally not satisfactory. The Iowa Studies showed nursery school to have a positive effect on the child's adjustment and achievement. Even though these experts are open to some of the criticisms mentioned previously, it is interesting to note an additional factor--that of environment. The Iowa Studies were conducted in the nursery school run by Iowa State University. The teachers had Master's degrees and experience with pre-school education. The assistant teachers were working on Master's degrees. The children were above average in intelligence and socio-economic status. These characteristics are common to university nursery schools and it would not seem presumptuous to assume that they have some effect on the children's school success.

Anna Freud (1952) has suggested that pre-school programmes complement parental instruction, rather than duplicate it. The current emphasis on relieving cultural deprivation through education will hopefully aim pre-school programmes in this direction. They should cater to training which can best be given by the school system and to the specific needs of the individuals making up the student body.

The future of state-supported junior kindergartens seems assured judging by the enthusiasm of such esteemed bodies as the United Nations and the U.S. government. And yet, the lack of conclusive results as to the effects of education at this level is disturbing. It goes without saying that further research is necessary, but Brubaker said it in 1960 and the author reiterates the point in 1966.

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